

Meeting Minutes

Plan & Zoning Commission Meeting

Tuesday, April 20, 2010

Ankeny City Hall – City Council Chambers

410 W. First Street, Ankeny, Iowa

CALL TO ORDER

The April 20, 2010 meeting of the Plan & Zoning Commission was called to order at 6:30 pm by Chairman T. Ripper.

ROLL CALL

Members present: D. Fliger, D. Godwin, S. Lawrence, S. Odson, G. Pareti, T. Ripper, L. Voigt.

Absent: T. Anliker, J. Austen. Staff present: J. Peterson, E. Jensen, S. Perkins, T. Kuhn.

PUBLIC HEARINGS

Item #2. Small Wind Energy Conversion System Ordinance

Staff Report: E. Jensen presented a PowerPoint report on the proposed Small Wind Energy Conversion Systems (SWECS) ordinance. He explained that in recent years the City has received questions and requests to allow the installation of wind turbines on commercial and residential property. A recent variance request by Karl Chevrolet to allow three 120-foot tall wind systems was denied by the Zoning Board of Adjustment citing that it did not meet the variance criteria. A Special Use Permit request by DMACC, zoned U-1, for a wind turbine was granted by ZBOA. U-1 zoning is unique and does not restrict height. Currently, the code does not address wind energy, systems have been classified as accessory structures for compliance review with the height limitation of 12 feet which essentially prohibits their use in most zoning districts. E. Jensen reported that a model ordinance was drafted by the Metro Advisory Council Technical Committee and adopted by MAC in December of 2009 to serve as a base for Metro area jurisdictions. The proposed Ankeny SWECS ordinance is largely unchanged from the MAC model with four exceptions:

Minimum lot size: The MAC ordinance allows 1 acre, the Ankeny draft requires a 3-acre minimum.

Minimum setback: The MAC ordinance requires 150% of the system height measured from the ground to the top of the blade at its fullest extension; the Ankeny draft includes a graduated setback based on the height of the tower. As the height increases, the setback increases.

Maximum height: The MAC ordinance limits height to 100 feet, the Ankeny draft allows a tower up to 140-feet tall. As lots increase in size, a slightly taller tower is allowed: for a 3 -5 acre lot, the maximum height is 65-feet; for a lot size of 5 – 40, the maximum height is 80-feet; for lots 40 - 100 acres, the maximum height is 100 feet; lots in excess of 100 acres are allowed a maximum height of 140 feet. Commercial building mounted units would be allowed to be 10-feet taller than the building on which they are located.

Minimum blade length: The MAC ordinance sets no standards, the Ankeny draft limits the blade length to 50% of the tower height to insure that the blade length and tower height are compatible.

The Ankeny ordinance regulates three different types of wind systems: horizontal axis, vertical axis and building mounted. For residential use, the turbine size is limited to a maximum of

15kW; for commercial, industrial or institutional use, the size is limited to 100 kW. The much larger wind farm turbines, typically 200-400 feet in height, are not regulated by this ordinance and are not allowed in Ankeny.

E.Jensen explained that in addition to lot size, setback, height and blade length, the ordinance addresses:

Electricity Use - generally intended for systems where the electricity produced is consumed on-site.

Noise - must comply with the existing noise ordinance

Color - must be white, sky blue or, light gray

Number permitted - limited to one freestanding tower per eligible residential lot, no building mounted permitted. Commercial, Industrial, Institutional allows one freestanding per eligible lot that exceeds the typical height requirement of the zone district with additional freestanding no taller than the tallest existing building on site. No limit on building mounted that conform to all requirements.

Design - monopole, no guyed tower, no lattice tower

Blade Clearance 30 feet from ground for horizontal axis, 10 feet for vertical axis

Lighting - none allowed unless required by FAA

Shadow Flicker - may not cause shadow flicker on an existing residential structure

Signage - none allowed

Utility Connection - requires Interconnection Agreement with utility company

Engineered Structure - requires certification by Iowa licensed PE

Safety controls - needs to be in place and installed correctly

Abandonment - allows for removal if abandoned for 6 months

The proposal requires a Special Use Permit by the Zoning Board of Adjustment and site plan approval by the Plan & Zoning Commission.

E.Jensen presented an aerial showing potential locations for small wind energy systems based on lot size. He further identified specific lots on site maps with potential locations further restricted by the setback requirements; summarizing that there would be very little usable area on most sites of adequate lot size.

E.Jensen provided an update on the status of SWECS ordinances in other metro communities. He advised the commission that with the potential for nuisance impact, the ordinance needs to allow systems that are appropriately located, sized and set back to minimize those impacts. Staff believes that has been accomplished with this ordinance and recommends approval.

D.Godwin asked if the wind turbine at DMACC would be allowed by this Code. E.Jensen responded that it would, it meets the size and set back criteria. D.Godwin asked why the draft code exceeds the MAC ordinance for maximum height. E.Jensen responded that the industry standard is in the 120 to 140 foot range, and with the additional setback, staff was comfortable recommending a slightly taller tower.

D.Fliger asked what the county regulations are for SWECS. E.Jensen said that they have 5 different categories of wind systems that they allow, he believes the smallest lot size allowed would be similar to the proposed Ankeny ordinance.

S.Odson asked what the standard blade length is. E.Jensen stated that it varies depending on the provider.

Jonathan Balashaitis, 1209 NE Stonevalley Circle, displayed a model of an Energy Ball wind turbine and presented photographs of a guyed tower on Ordinance Road, utility poles, and flag poles in Ankeny. He outlined his concerns with the proposed ordinance: Why are building

mounted systems prohibited in residential neighborhoods if they are certified by a licensed engineer to withstand high winds. He disagrees with limiting the height of additional turbines in commercial, industrial areas. He agrees with the monopole design. He disagrees with the restriction to allow wind turbines only for the production of electricity, since there are other applications such as electric car chargers and sign illumination. He questioned the noise restriction, noting that a refrigerator has a decibel level of 50, the wind turbine prototype he brought in has a decibel level of 43. Mr. Balashaitis stated that the proposed code limits 90% of the residential lots in Ankeny. He believes the requirement for \$2M in insurance is excessive and questioned the reason for a feasibility study. He disagreed with the setback, lot size and blade clearance requirements. He believes turbines should be allowed on residential rooftops.

J. Peterson reminded the Commission that they each received a packet of information from Mr. Balashaitis outside of the public hearing that should be recorded as received into the record.

Robert Thompson, CEO, Home Energy Americas, McKinney, TX said he has placed over 1500 of the Energy Ball turbines in Europe and the United States and he has written 20 different city ordinances for wind turbines. He stated that the proposed ordinance is highly restrictive excluding wind turbines for most residents. He said the requirement for \$2M of insurance is cost prohibitive for most people. He believes that compliance with federal and state safety restrictions should be adequate without adding additional city regulations. He stated that a manufacturer study found that homes that applied wind or solar energy sell 62% faster than homes that do not have wind or solar energy. Additionally, studies have shown that \$20 in home value is added for every \$1 invested in renewable energy.

D. Fliger asked what the payback is for a typical residential wind turbine. Mr. Thompson responded that the cost of a 1kW turbine is \$10,000-12,000, a 2½ kW turbine is \$18-20,000, the homeowner would be eligible for a 30% tax rebate, resulting in a payback period of about 10 years.

T. Ripper asked the Commission if there was additional information they would want staff to research for the next meeting:

S. Odson asked why residential building mounted is prohibited and if the safety controls are required only if the tower is hooked into the grid. He would like an explanation of the setback requirements. S. Odson asked Mr. Thompson what cities have a good wind energy ordinance. Mr. Thompson responded that Islip, New York has a good ordinance.

G. Pareti said he wanted to know the impact of the noise and agreed that the insurance seems unreasonable. He also would like to understand the future use for electric cars.

S. Lawrence said she would like to see how the map showing potential locations for small wind energy systems would change with the MAC ordinance regulations.

L. Voigt asked about the value of the feasibility study.

D. Fliger said that he appreciates the testimony of Mr. Balashaitis and Mr. Thompson as the community is learning more about wind energy.

Motion by D. Godwin to close the public hearing and receive and file documents. Second by G. Pareti. All voted aye. Motion carried 7 – 0.

Meeting Minutes

Plan & Zoning Commission Meeting

Tuesday, May 4, 2010

Ankeny City Hall – City Council Chambers

410 W. First Street, Ankeny, Iowa

CALL TO ORDER

The May 4, 2010 meeting of the Plan & Zoning Commission was called to order at 6:30 pm by Chairman T.Ripper.

ROLL CALL

Members present: J.Austen, D.Fliger, D.Godwin, S.Lawrence, S.Odson, T.Ripper, L.Voigt.

Absent: T.Anliker, G.Pareti. Staff present: J.Peterson, E.Jensen, E.Carstens, T.Kuhn.

Commissioner T.Anliker arrived at 6:34 pm.

BUSINESS ITEMS

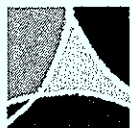
Item #4. Small Wind Energy Conversion System Ordinance

Staff Report: E.Jensen said that his staff report covers the items that were raised during the public hearing, he addressed 2 of those which resulted in changes to the draft ordinance:
Liability insurance – the amount required in the original draft was 2 million dollars, which is historically what the city has required for structures such as cell towers. In checking with metro communities and the city attorney, staff is comfortable changing the amount to \$1 million.
Sole purpose - that language was specifically added to the ordinance after the City Council / Plan & Zoning Commission joint worksession to address the desire not to allow cell antennas, microwave dishes, etc to be attached to towers specifically designed for a wind turbine.
Staff recommends approval of the SWECS ordinance.

S.Lawrence asked if this ordinance is more stringent than other local jurisdictions. E.Jensen stated that some ordinances entirely prohibit turbines in residential districts. Staff believes they can be allowed on lots that are appropriately sized with the limitations of setbacks.

S.Odson asked if staff received a model ordinance, as promised from Mr. Thompson who spoke at the public hearing. E.Jensen responded that staff did not receive it. S.Odson asked if a resident has the right to wind. E.Jensen stated that this ordinance does not guarantee it.

Motion by D.Fliger to recommend City Council approval of the Small Wind Energy Conversion System Ordinance as amended. Second by L.Voigt. All voted aye. Motion carried 8 – 0.



city of
Ankeny

bringing it all together

*Plan and Zoning Commission
Staff Report*

Meeting Date: May 4, 2010

Agenda Item: Small Wind Energy Conversion Systems (SWECS) Ordinance
Report Date: April 26, 2010
Prepared by: Eric C. Jensen, AICP *ECJ*
Assistant Director

Staff Recommendation

That the Plan and Zoning Commission recommend City Council approval of the Small Wind Energy Conversion Systems (SWECS) Ordinance.

Report:

Increased Requests and Current Zoning Ordinance

Over the past few years, City staff has received several inquiries regarding the City's regulations for wind generation systems – this is consistent with communities across the Des Moines metro as well those around the Country. These inquiries have ranged from casual questions to serious inquiries and have been initiated by single-family homeowners as well as multifamily and commercial property owners, with the serious inquiries becoming more common in recent months.

To date, with the guidance of the City Attorney, staff has made the interpretation that these proposed wind energy conversion systems are accessory uses and therefore are governed by the accessory structure regulations of the current Ankeny Zoning Ordinance. Consequently, in most Zoning Districts such accessory structures are limited to 12 feet in height. Because these systems need to be situated up high, where the wind is located in order to be effective, the current Ordinance requirement essentially eliminates the ability to place a wind energy system within the City of Ankeny.

Because the current Zoning Ordinance does not permit wind towers over 12 feet tall in most Zoning Districts, in October of 2009 Karl Chevrolet requested approval of a height Variance to allow the construction of three, 120 foot tall, 50 kW wind energy systems on the property at the southwest corner of I-35 and SE Oralabor Road. The Zoning Board of Adjustment denied that Variance request citing that the request did not meet the criteria necessary for granting a Variance. The Board also indicated that because the City was currently working on an Ordinance to specifically regulate wind towers, they believed it was inappropriate to approve a Variance request to allow such a use prior to any City Council decision on the proposed Ordinance.

Additionally, in March of 2010, DMACC requested approval of a Special Use Permit to allow construction of a 130 tall, 50 kW wind energy system. The DMACC site is one of only two areas in the community (the other being the Ankeny Airport), that is zoned U-1 (Conservation and Public Utility District). The U-1 District does not have a height limitation for structures and staff determined that the wind energy system use is allowed in the District, upon approval of a Special Use Permit by the Zoning Board of Adjustment. Prior to the review by the Board, the City Council adopted Resolution No. 2010-041 which included the following action items:

- 1. That the City Council directs staff to prepare regulations governing small wind energy conversion systems that are generally based upon the Des Moines Metro Advisory Council model ordinance with revisions representing the unique situations in Ankeny and an emphasis on protecting the residential and commercial neighborhood character and our community's character; and,*

2. *That the City staff present those regulations and their recommendations at a joint meeting of the City Council and Plan and Zoning Commission on March 22nd; and,*
3. *That the City staff work with the Des Moines Area Community College and the Ankeny Zoning Board of Adjustment to process and evaluate the Community College proposal within the current guidelines as a special use permit and with guidance from the Des Moines Metro Advisory Council model ordinance along with any and all other appropriate standards and effects that would normally be considered in this type of application.*

Per this resolution, staff presented to the Zoning Board of Adjustment an analysis of the requested DMACC wind energy system based on the criteria outlined in the draft Small Wind Energy Conversion Systems (SWECS) Ordinance, as well as the general criteria identified in the existing Zoning Ordinance for a Special Use Permit. Based on this review, the Board approved the requested wind energy system.

Early Draft Ordinance and the MAC Model Ordinance

When the inquiries regarding wind energy systems first started, staff began preparing a draft Ordinance to regulate these uses. However, this draft Ordinance was not presented to the Commission or Council. In late 2009, the Metro Advisory Council (MAC) assembled a Technical Advisory Committee to draft a Model SWECS Ordinance. Ankeny City staff was represented on the Committee and on December 18, 2009, the MAC approved the Model Ordinance. A copy of the MAC Model Ordinance is attached to this staff report. The intent of the Model Ordinance was for it to serve as a baseline for each metro jurisdiction to use to draft their own legislation regulating small wind energy systems. It was intended that each community could/would modify the Ordinance to reflect the intent of their local jurisdiction with regard to regulating and allowing small wind energy systems – each community could take into account the differing circumstances in their respective communities. A great deal of research was conducted to prepare the draft and the Model Ordinance regulates all aspects of these systems, including height, setback, tower design, color, lighting, signage, maintenance, access, safety controls, wind access easements, noise and shadow flicker. The Model Ordinance also requires that all SWECS be approved through the Special Use Permit process to ensure that proper public notification and input is provided on each application.

Proposed Ankeny SWECS Ordinance

Upon adoption of the Model Ordinance by MAC, staff began preparing Ankeny's version of the SWECS Ordinance. A copy of the proposed Ankeny SWECS Ordinance is attached to this staff report. Generally, staff has only proposed four significant changes from the MAC Model Ordinance for Ankeny. Those changes are: minimum lot size, minimum setback, maximum height, and maximum blade length. Each of these areas is further detailed below.

Staff foresees proximity to, and density of, wind energy systems, especially in single family residential settings, to be the majority of the issues that we will face as we begin to regulate and permit these systems. Therefore the first two changes that staff is proposing regulates the minimum lot size on which a SWECS can locate and the minimum setback required for a SWECS. The MAC Ordinance requires a minimum lot size of one (1) acre in order to be able to erect a small wind system. As proposed, the City of Ankeny SWECS Ordinance requires a minimum lot size of three (3) acres. In Ankeny, we do have a considerable number of single family residential lots that meet the one (1) acre minimum lot size. Staff believes increasing the minimum lot size to three acres helps to ensure that the lot is of a sufficient size to accommodate a SWECS.

The MAC Model Ordinance requires a minimum setback for a freestanding (versus building-mounted) SWECS of 150% of the total system height. As proposed, the City of Ankeny SWECS Ordinance requires a minimum setback of 150% of the total system height and then increasing setback based on the height of the tower. The graduated scale is illustrated below:

- 150% of the total system height for towers up to 65 feet in height.
- 200% of the total system height for towers that are 65 feet up to 80 feet in height.
- 250% of the total system height for towers that are 80 feet up to 100 feet in height.
- 300% of the total system height for towers that are 100 feet and taller in height.

As previously stated, staff believes that proximity and density will be the areas of issue with the regulation of these systems. Staff believes that increasing the setback based on the height of the tower will help to mitigate the impact of these systems.

The maximum height allowed is the third area of the Model Ordinance that staff has modified for Ankeny. The MAC Model Ordinance limits the maximum height of SWECS to 100 feet, regardless of their location. Understanding that there may be certain locations within the City of Ankeny – such as large campuses, parks, or industrial sites – where it may be appropriate to locate slightly taller SWECS, staff has proposed a maximum height of 140 feet for towers that are located on a single parcel consisting of at least 100 acres. Staff believes that the larger lot size, coupled with the increased setbacks, will alleviate the impact of these systems and allow them to be located on suitable locations within the community.

The final change to the MAC Model Ordinance being proposed by the Ankeny Ordinance is to the maximum allowable blade length. The MAC Model Ordinance does not regulate the length of the blades on a SWECS. As proposed, the Ankeny SWECS Ordinance limits the maximum blade length to 50% of the tower height. Staff's concern with having no regulation of maximum blade length is that it could result in SWECS with long blades that "overpower" the site. By limiting the maximum blade length to 50% of the tower height, staff believes that this will ensure that the blades are in proportion with the rest of the tower.

Example Ordinance Allowances

In order to understand better how the proposed SWECS Ordinance will regulate wind energy systems in our community, staff has prepared several graphics and attached them to this staff report. The first graphic titled ***Potential Small Wind Locations***, illustrates existing lots within the Ankeny City Limits that are of a sufficient size to allow a SWECS and that also include a primary structure. The yellow color are lots that could potentially allow for a SWECS up to 65 feet in height; the green color a SWECS up to 80 feet in height; the light blue color a SWECS up to 100 feet in height; and, the dark blue color a SWECS up to 140 feet in height. It should be noted that this graphic merely shows the potential location of SWECS based on the minimum lot size and the existence of a primary structure on the lots identified. This graphic does not apply any of the other criteria of the proposed SWECS Ordinance.

Therefore, the remaining graphics provide examples of lots in the community that are of an appropriate size to locate a SWECS and also applies the required setbacks of the Ordinance to the lot to illustrate the remaining "buildable area" for a SWECS. These graphics only illustrate the required setback on the lot, they do not illustrate the other criteria of the Ordinance which will further limit the "buildable area" of the lot for SWECS. For example, SWECS are prohibited from displacing any required parking or being located within any existing easements. They must be set back 20 feet from any existing structure or above ground utility. These criteria will further limit the locations in the community where SWECS can be located.

Status of Other Communities' Ordinances

Staff has surveyed the other local communities regarding their status on implementing the MAC Model Ordinance. At the time of the preparation of this staff report:

- Clive has passed the second reading of their Ordinance. Clive modified the MAC Model Ordinance to eliminate SWECS in residential Zoning Districts and a maximum height for all systems was limited to 60 feet.
- The Johnston Planning and Zoning Commission recommended to City Council approval of a SWECS Ordinance. The Johnston Ordinance is largely unchanged from the MAC Model Ordinance with the exception that the minimum lot size has been reduced from one acre to 40,000 square feet to be consistent with other provisions of their Zoning Ordinance. It is anticipated that the Ordinance will be presented to the City Council next month.
- Des Moines, Indianola, Pleasant Hill and Dallas County will all be considering the Ordinance in the coming months.
- West Des Moines already had a SWECS Ordinance adopted. They are currently working on revisions to their existing Ordinance based upon the research conducted with the MAC process.

Public Hearing

On April 20, 2010, the Plan and Zoning Commission held a public hearing on the proposed SWECS Ordinance. The following is a summary and discussion of the issues raised at the hearing:

- During the public hearing, photos of existing overhead power lines in the community were shown. Staff believes the intent was to illustrate that these existing overhead lines are as obtrusive as the some wind energy systems and yet they are permitted. It should be noted that the power lines shown are in older portions of the community and pursuant to Section 200.37 of the Ankeny Municipal Code, overhead utility lines are not permitted in new developments. This requirement is consistent with requirements in most Central Iowa communities and is due in large part to the obtrusive nature of these above ground systems.
- Also during the public hearing, Jonathon Balashaitis presented to the Commission a model of an Energy Ball wind energy system. Staff would like to make sure that the Commission understands that what was offered was not the actual unit, but a small-scale replica or model. According to the literature that Mr. Balashaitis distributed to the Commission and staff, the actual 2.5 kW Energy Ball system has a rotor/blade diameter of approximately 6.5 feet and weighs approximately 320 pounds – much larger than the system presented to the Commission.
- The issue was raised during the public hearing that the proposed SWECS Ordinance does not allow building mounted units on one and two-family residential structures. Much thought was given to building mounted units by both the MAC Committee that worked on the Model Ordinance as well as City staff in preparing the Ankeny draft Ordinance. In the end, there is one basic reason why building mounted units on one and two-family residential structures are prohibited by both the MAC Model and Ankeny draft Ordinance – structural safety. While the proposed Ordinance does require a structural certification for building mounted units, the MAC Committee (which included Building Inspection staff) and City staff are concerned that the wood-framed construction of one and two-family residential buildings would not be able to support the weight, wind loading, snow/ice loading, and ultimate stresses placed upon it by a wind energy system. To that point, Des Moines City staff shared with the MAC Committee that a wind energy system was installed on the roof peak of a single family residential garage in the City of Des Moines approximately 2 years ago. With the permit, the City required a structural analysis and a certification that the garage structure could support the wind system, which was provided. Despite that certification, the wind energy system was removed by the property owner shortly after installation because the wind stresses being placed on the garage were too great and structural damage was occurring to the garage.

Wood-framed residential construction simply was not designed to support large, heavy equipment that is specifically intended to catch the wind. Perhaps as the City eases into allowing wind energy systems in the community, examples of systems that can locate on buildings without damage will be provided in the community and the Ordinance can be revisited to allow them in the future. Furthermore, should wind energy become more prevalent, conceivably all buildings will be designed and constructed to support wind energy systems.

- During the public hearing, it was stated that the minimum required lot size of three acres for freestanding SWECS is excessive. The MAC Model Ordinance established a minimum lot size of one acre for freestanding SWECS. Staff has modified that requirement to three acres for the Ankeny draft Ordinance for two basic reasons. First, staff anticipates that the majority of complaints that will be received as we begin to allow SWECS within our community will be because of proximity to the systems. Proximity to the systems can lead to the proliferation of the potential negative impacts such as noise, ice fall/throw, shadow flicker, etc. The increase of the minimum lot size from one acre to three acres provides a larger lot on which to locate the systems and, when coupled with the required setbacks, as discussed below, helps to mitigate those negative impacts of SWECS. Instead of increasing the minimum lot size to combat these potential negative impacts, some area communities, such as Clive and Ames, have simply prohibited SWECS in all residential districts as they cautiously begin to allow SWECS in their communities.

Secondly, as stated previously the current Ankeny Municipal Code does not allow SWECS within the community. It is clear that there is concern by members of the community regarding allowing SWECS within City limits. Therefore, staff has taken a conservative approach to preparing the Ankeny draft Ordinance. Staff believes that if the proposed Ordinance is adopted and some units are installed within the community and it can be displayed that there are no negative impacts from these systems, then the Ordinance could be revisited and possibly modified to be more liberal on the allowance of SWECS, perhaps reducing the minimum lot size requirement.

It should also be noted that the minimum lot size required for a building mounted SWECS for commercial, industrial and institutional uses is one acre for those buildings that are less than five stories. There is no minimum lot size for building mounted SWECS on buildings that are five stories or taller.

- During the public hearing, it was stated that the setbacks being proposed in the Ankeny draft Ordinance are unreasonable. As stated in the previous section, staff anticipates that the majority of complaints that we will receive as we begin to allow these systems within our community will be because of proximity to the systems, which then can lead to the proliferation of the potential negative impacts such as noise, ice, shadows, etc. Much of the testimony at the public hearing regarding setbacks revolved around the fall zones of these systems and it was stated that the setback only needed to be 100 – 110% of the tower height to provide for the fall zones. However, setbacks are required and established to not only accommodate the collapse of the tower but also to mitigate the possible negative impacts of these systems. As the towers become taller the potential for negative impacts increases, therefore additional setbacks are necessary. Requiring additional setback as the height increases is not a new concept. Furthermore, most Zoning Ordinances, including the City of Ankeny's Zoning Ordinance, provide for additional setback as structure height increases. Again, staff has taken a conservative approach to preparing the Ankeny draft Ordinance. Staff believes that if the proposed Ordinance is adopted and some units are installed within the community, demonstrating that there are no negative impacts from these systems, then the Ordinance could be revisited and possibly modified to be more liberal on the allowance of SWECS within the community. As such, it may be possible to reduce the required setbacks.

- Another issue raised at the public hearing was the limitation on additional freestanding units on commercial, industrial and institutional properties. For these uses, the draft Ordinance (as well as the MAC Model) allows one freestanding unit that exceeds the maximum height limitation for structures in the district plus as many additional SWECS as desired which are no taller than the tallest existing principle building on the site. This was in fact a compromise from the original position of the MAC Committee, which was to limit all locations to one freestanding SWECS, without exception. The Committee discussed the possible inclusion of smaller vertical access systems (such as those installed by the Church of Hope in West Des Moines), as well as other smaller units such as those that might be mounted on parking lot lights, etc. The intent of the Committee was not to prohibit these smaller systems, but to limit the larger systems to one per applicable lot within the community. Therefore, the language was modified to limit the taller systems to one per lot, but to allow the smaller additional systems essentially without limitation, as long as all other bulk regulations of the District are met.

- A question was raised during the hearing regarding the amount of required liability insurance and the corresponding cost burden placed on property owners. The requirement for liability insurance was included in the MAC Model Ordinance, however the amount was left blank for each community to fill in as necessary. Currently, the proposed Ankeny draft Ordinance requires \$2,000,000 liability insurance and that amount was included in the draft Ordinance in the first draft. Historically, per the direction of the City Attorney, the City of Ankeny has required a \$2,000,000 liability policy for cell towers that have been placed on City-owned property. Just recently, again on the advice of the City Attorney, the City of Ankeny required a \$1,000,000 liability insurance policy for a cell tower that is to be installed on private property (Ankeny Community School District maintenance facility). Staff has contacted the other metro communities and found that most of them are requiring \$1,000,000 liability insurance. Therefore, staff has modified the draft Ordinance to require \$1,000,000 liability insurance instead of \$2,000,000. It should be noted that according to a local insurance provider, the premium for a \$1,000,000 umbrella policy added to an existing homeowner's policy is approximately \$125 per year or \$10.42 per month.

- During the public hearing, the "sole purpose" language of the draft Ordinance was questioned. Currently, Section 196.02.1.L3.e of the Ankeny draft Ordinance states that **"SWECS towers shall be utilized for the sole purpose of supporting wind energy conversion systems. No other uses shall be permitted on SWECS towers."** This provision was added to the draft Ordinance after the joint Plan and Zoning Commission/City Council workshop regarding the SWECS Ordinance. At the workshop, a City Councilman expressed his concern regarding the possibility that cellular antenna, microwave dishes, satellite dishes, and other similar apparatus might be attached to a SWECS tower and wanted to make sure that did not occur. The intent of adding this provision was simply to limit these other items from being attached to a SWECS tower. It was not intended to prohibit a small wind energy system from being mounted on the top of a parking lot light or for a SWECS tower to also provide an electrical outlet at its base for electric cars or for limiting any other appropriate alternative use. Staff has therefore revised the language to read **"No other apparatus or mechanical/electronic equipment, such as cellular antennas, microwave dishes, or satellite dishes shall be attached to a SWECS tower."** This should eliminate the concern regarding other ill-fitting equipment from being attached to the tower, while still allowing appropriate alternative uses to locate on the SWECS tower.

- During the public hearing, it was questioned why a feasibility study was being required prior to the installation of any SWECS. This requirement was discussed at length by both the MAC Committee and City staff. Ultimately it was determined that staff did not want a property owner to install a SWECS without completing a feasibility study, only to discover that the system does not work as expected. The property owner would then likely come back to the City and request a taller tower for the system and the City might then be in a position of obligation to allow the taller system simply because a significant investment on the property has already been allowed to occur. Staff's opinion was that most people would conduct a feasibility study anyway before making a sizable investment on their property. Much of the literature we have reviewed recommends performing a feasibility study of the site and that for an effective study to be completed, a minimum of three months of study is suggested.
- During the public hearing it was requested that a map be provided that illustrated the potential SWECS locations pursuant to the MAC Model Ordinance. That map has been attached to this staff report.

Summary

In preparing an Ordinance to regulate small wind energy systems, it must be understood that there is more to consider with the preparation of this Ordinance than whether or not Ankeny wants to be a green, sustainable community. SWECS are relatively new and the technology is rapidly changing. They have the potential for providing negative impacts to surrounding property owners. Staff believes that the proposed Ankeny SWECS Ordinance takes into consideration these impacts and provides criteria to help mitigate these impacts. Staff believes that the proposed Ordinance will allow SWECS to be located in the community on lots that are appropriately sized and situated to accommodate them. Therefore, staff is recommending approval of the Small Wind Energy Conversion Systems Ordinance.